# NOTICE OF INTENT TO AWARD GRANTS
# 2007 VIRGINIA WATER QUALITY IMPROVEMENT FUND

## Chesapeake Bay Watershed ~ Project Descriptions

The Virginia Department of Conservation and Recreation intends to award grants to the following nonpoint source water quality improvement projects in response to the *2007 Virginia Water Quality Improvement Fund Request for Proposals*, DCR Document #: DCR199-166, issued February 15, 2007. The purpose of these grant awards is to support nonpoint source pollution reduction initiatives targeted to the restoration of streams that fail to meet state water quality standards, or that support protection or restoration of other priority waters such as those containing critical habitat or drinking water sources. Grants are awarded for projects within the Chesapeake Bay Watershed and for watersheds in Virginia that drain outside the Chesapeake Bay, the Southern Rivers Watersheds. The Water Quality Improvement Act requires the list of projects selected for grant awards be made available for public review and comment for at least 30 days prior to executing final grant agreements. Questions or comments regarding this award list should be submitted to Sarah Capps, sarah.capps@dcr.virginia.gov.

**Augusta County**
*LID Retrofit at Existing Commercial Development in August County: A Demonstration Project*

A 3.2-acre highly visible commercial property in Augusta County's Greenville village, which was identified as having significant drainage issues, will be retrofitted to incorporate low impact development stormwater management facilities to reduce the impacts of runoff to the impaired South River. An existing ineffective detention basin will be retrofitted with 1,400 square feet of biofilter, a 1,750 square foot bioretention swale will be added along the road frontage, and 25 linear feet of French drain will be installed to direct surface and rooftop runoff from the building to the bioretention facilities. The project will demonstrate the use of bio-filtration practices to treat runoff from commercial properties and will serve as an example for future development in the County. An estimated 3.2 lbs of phosphorus will be reduced annually from this site. $40,000 WQIF, $47,601 Match

**Cabell Brand Center**
*Rainwater Harvesting to Abate Stormwater Runoff*

Rainwater harvesting systems will be installed at a public buildings and a private building to demonstrate the use of this BMP for reducing rooftop runoff from over 97,000 sq. feet (2.2 acres). These sites will be incorporated into the Virginia Rainwater Harvesting Manual, which with the demonstrations is expected to generate broader acceptance of rainwater harvesting as a BMP for managing stormwater runoff in Virginia. The two systems include:
1) Charlottesville Transit Facility, the 32,000 sq. ft. roof on the administration building will be retrofitted with a system that will be used for washing vehicles and flushing toilets; and 2) Handcraft Services in Richmond, runoff from 65,000 sq. ft. roof at this laundry facility will be captured and reused in the business operation. Based on national average concentrations in stormwater runoff, these systems will reduce estimated annual NPS loads by 40.6 lbs of nitrogen, 5.3 lbs of phosphorus, and 1,104 lbs of sediment. $109,372 WQIF, $109,372 Match

**Caroline County**
*Dawn Decentralized Wastewater Treatment / Septic Replacement; Septic Pumpout Program*

Two proposals submitted to WQIF from Caroline County are combined into one award. A Fixed Film Activated Sludge (FAST) alternative wastewater treatment cluster system including individual STEP tanks at each home will be installed to replace 28 failing septic systems (27 homes and one church) in the Dawn Community of Caroline County. This project expands on a FY2006 WQIF grant award and a larger County initiative, which aims to replace of more than 180 individual septic systems experiencing severe drainfield problems with a system that will be owned and operated by the County. The Dawn Community is located at the divide between several creeks feeding both the Mattaponi and Pamunkey Rivers. This project will help to address the fecal coliform impairments for two of the feeder creeks, Reedy Creek and Herring Creek. Calculations from the project's engineer estimate annual NPS reductions of 5,229 lbs of nitrogen and 2,051 lbs of phosphorus for the 28 new systems being connected.

Caroline County will establish and implement its septic pump out maintenance program including development of a methodology to notify property owners, further evolution of the BMP tracking and maintenance program, and increased awareness of the program requirements promoted to the public, in an effort to bring the county program into compliance with requirements of the Chesapeake Bay Preservation Act. Approximately 1500 septic systems will be pumped out annually. $200,000 WQIF, $200,000 Match

**Christopher Newport University**
*Tomahund Created Wetland Treatment Project*

A total of 5 acres of depression wetland will be created on an abandoned surface mine site and will be used to absorb nitrogen discharged from 50 acres of abandoned mine lands and 250 acres of an active mining operation. The wetlands will be located in Charles City County at Tamahund Plantation, the largest gravel surface mining operation situated along the confluence of the Chickahominy and James Rivers. Excess groundwater from this operation is consistently pumped out of the gravel pit lakes into detention ponds that are used to settle out total suspended soils. The created wetlands will remove nitrate-nitrogen from the active surface mining water via the denitrification processing of anaerobic soils. The wetland is not being constructed to meet any permit requirements, as there are no legal requirements to reduce nitrate loading from the active surface mining operations at this site. This project is estimated to reduce 100,000 lbs of nitrogen annually. $68,848 WQIF, $68,848 Match

**City of Falls Church - Dept. of Environmental Services**
*Impervious Surface Effectiveness Demo Project*

The City of Falls Church will implement a series of low impact development strategies to increase stormwater detention, improve water quality, and reduce the amount and quality of flow to the stormwater system draining to the impaired Four Mile Run and Tripps Run. The City plans to demonstrate sustainable small scale stormwater management practices with the installation of 5-8 stormwater detention facilities, 6 bioretention box filters, 750 linear feet of pervious trails, and by encouraging residents to install 500 rain barrels. This project is estimated to reduce 155 lbs of phosphorus annually. $93,000 WQIF, $114,640 Match

**City of Manassas**
*Winters Branch SWM Enhancement & Stream Valley Restoration & City-Wide Stormwater Operational Improv.*

The City of Manassas plans to retrofit the Winters Branch Regional SWM facility treating a 656 acres drainage area with a sediment forebay and wetland plantings to enhance nutrient removal by 2% or +39 lbs of phosphorus. A streambank stabilization effort will also be undertaken. The City of Manassas will make operational improvements in drop inlet cleaning and sweeping operations with grant matching funds. This WQIF funding is for Phase II and continuation of a multi-year project that received a FY2006 WQIF award. The project will result in estimated annual removal of an additional 60 lbs of phosphorus. $ 150,350 WQIF, $155,350 Match

**City of Norfolk, Dept. of Public Works, Division of Environmental Strom Water Management**
*Old Dominion University Wetland Restoration*

The City of Norfolk in partnership with the Elizabeth River Restoration Steering Committee will coordinate the restoration of 1.1 acres of wetlands and in-stream habitat below Old Dominion University in the City of Norfolk. The project site flows to the most productive section of the main stem of the impaired Elizabeth River. The site currently contains a fragmented vegetative buffer with limited width and function allowing stormwater and pollutants to directly discharge into the Elizabeth River. The properties where the restoration effort will take place are currently owned by the City of Norfolk and Old Dominion University. The City plans to either acquire the ODU property or expand an existing agreement for this restoration effort to lease the ODU property for at least 10-years, as required for maintenance under the WQIF program. $165,000 WQIF, $200,000

**City of Virginia Beach**
*Virginia Beach Water Quality Coordination & Program Enhancement Project*

The City of Virginia Beach will expand efforts funded under a 2006 WQIF grant to achieve water quality improvements through numerous activities that directly address NPS pollution reductions and focus on waters where TMDLs have been established. A 22,000 square foot extended detention rain garden will be installed on City property at Alanton Elementary School; over four acres of riparian buffers will be installed along approximately one mile of shoreline on City-owned park and school lands; and a dry detention pond at Virginia Weslyan College will be converted to a wet pond. Other aspects of the project include expansion of an oyster and clam shell-recycling program for the Lynnhaven River, and construction of an outdoor classroom with a demonstration rain garden at Creeds Elementary. Estimated annual NPS reductions from this project include 60 lbs of phosphorus and 4.79E11 fecal coliform colony forming units. $133,932 WQIF*, $133,932 Match

** WQIF funding is split between allocations from Chesapeake Bay ($73,932) and Southern Rivers ($60,000).*

**City of Waynesboro**
*Waynesboro Regional Water Quality Initiative - Phase I*

This project supports implementation activities to reduce the impacts of stormwater runoff to the South River watershed in the City of Waynesboro through the retrofit of two existing stormwater facilities, installation of six rain gardens, and distribution of ten rain barrels. A sediment forebay will be installed on an existing stormwater pond at the Westwood Elementary School, and channel and outlet protection will be updated with adequate protection and check dams to reduce erosion from stormwater dispersed on an adjacent property. A water quality based public outreach program targeted to residents will be initiated to encourage voluntary removal of roof drains and the installation of rain gardens and rain barrels. Six rain gardens and ten rain barrels will be installed at individual residences to demonstrate the benefits of these BMPs for reducing runoff. This project is estimated to reduce 16.6 lbs of phosphorus annually. $34,064 WQIF, $42,583 Match

**County of Mathews**
*Countywide Notification & Tracking of Septic Pumpout Program*

In order to ensure current and future compliance with the septic maintenance requirements of the Chesapeake Bay Preservation Act, the County of Matthews will establish a system to document the location of septic systems and to track compliance with the septic maintenance requirements. The project is targeting 1,000 households per year for meeting the program requirements based on an estimated 5,000 homes for which the septic system maintenance applies. $25,000 WQIF, $25,000 Match

**Culpeper SWCD**
*Natural Stream Channel Restoration in the Upper Rappahannock River Basin*

Natural stream channel stabilization utilizing fluvial geo morphological methods for long-term stabilization will be used along 3,000 linear feet of steam channel with an average stream bank height of 4.5 feet at a site on Rosson Hollow Run in Madison County. This restoration project will be used to provide training opportunities for SWCD staff and area contractors in order to promote better understanding of the methodology and implementation requirements that can be applied in future natural channel stream restoration projects. This project is estimated to reduce 738.6 tons of sediment annually. $73,600 WQIF, $73,600 Match

**Fairfax County Park Authority**
*Huntley Meadows Central Wetland Restoration; Turkeycock Run Stream Restoration*

Two projects submitted to WQIF from the Fairfax County Park Authority were combined into one award. More than twenty acres of wetland will be restored at Huntley Meadows Park located in the City of Alexandria and Fairfax County, treating stormwater runoff from 800 acres with 25%+ impervious surface in the Dogue Creek Watershed. The wetlands restoration project includes installation of a water control device, construction of a sediment forebay, relocation and contouring of sediment and soils, restoration plantings, monitoring and maintenance. NPS results from the restoration of the wetland are an estimated annual reduction of 150 lbs of phosphorus.

Stream restoration will occur along 1,000 linear feet of degraded stream and stabilization of 1,200 linear feet of stream bank on Turkeycock Run, a tributary to Cameron Run. The project is located at the Green Spring Gardens Park in Fairfax County. Eroded stream banks were identified as one of the top three problems in the County's Cameron Run Watershed Plan. Stabilization of the stream bank will utilize techniques such as coir log toe protection, imbricated rock walls, J weirs, gabions, and riprap. The project includes removal of 200 cubic yards of bed load material that would otherwise be washed down stream during storms. The restoration will prevent erosion of ~ 300 cubic yards and reduce sediment loads by 385 tons annually. $90,0000 WQIF, $410,000 Match

**Harrisonburg Parks & Rec.**
*Blacks Run Stream Bank Restoration*

This project will restore 1,000 linear feet of stream bank to serve as a filter strip for runoff along the impaired Blacks Run in the City of Harrisonburg. A concrete retaining wall will be removed, in-stream structures will be used to prevent erosion and to create a more natural stream channel design, and the stream bank will be re-sloped and vegetated. Two-drop inlets from parking area will be removed, 300 square feet asphalt will be replaced with vegetation, and runoff will be directed to the buffer area through the use of curb cuts. This project will also initiate a Proper Lawn Care campaign to educate residents and landscaping professionals on topics such as fertilizing, soil testing, pesticide use, and managing pet waste. Soil test kits will be distributed to citizens in conjunction with the lawn care campaign. This project is estimated to reduce 20 lbs of nitrogen, 3.5 lbs of phosphorus, and 2,550 lbs of sediment annually. $29,100 WQIF, $44,500 Match

**Headwaters SWCD**
*Residential Septic Management in Select TMDL Watersheds*

A residential septic maintenance program will be initiated in TMDL watersheds of Augusta County, in partnership with the Augusta County Service Authority. The fecal coliform impaired waters of Mossy Creek, Long Glade Run, and Naked Creek will be targeted. The project will result in approximately 275 septic system pump-outs, 10 septic system installations, 25 septic system repairs, and 1 alternative system installation. A septic system maintenance-tracking program will be established for Augusta County. They system will be used to track dates of needed septic system maintenance, record dates, and landowner names and locations where septic system maintenance is performed. The ultimate goal of the project is to encourage the County to expand their current proposed Source Water Protection Program to adopt regular septic system maintenance as a countywide ordinance. It is estimated that the BMPs implemented through this project will reduce 360 lbs of nitrogen per year and 3.34E+12 colony forming fecal bacteria. $148,395 WQIF, $149,546 Match.

**Lands & Waters, Inc.**
*Unity of Fairfax Stormwater Management Plan*

A detention basin will be converted to a stormwater wetland and a 4,500 square foot roof will be retrofitted with a green roof to reduce the impacts of runoff to Difficult Run from the 5 acre Unity Church of Fairfax site in the Oakton area of Fairfax County. This property will be used to educate the 300+ member church congregation and the community about ways to reduce the impacts of development through the conversion of the dry detention pond to a retention pond, a green roof installed on a main structure of the church, and BayScaping of the entire landscaped area eliminating the use of fertilizers. This initiative serves as a low impact development demonstration site and is estimated to reduce 1.5 lbs of phosphorus annually. $30,000 WQIF, $70,225 Match.

**Madison County BOS**
*Stormwater Management Project*

A local stormwater management ordinance will be developed for Madison County to better manage the increase in land development and reduce the adverse impacts associated with stormwater runoff. The ordinance will include a section of low impact development to encourage its use as an alternative to traditional development. Estimates for nutrient loads from development occurring in the county with and without a stormwater ordinance suggest that the ordinance may reduce as much as 1,013 lbs of nutrients annually. $26,000 WQIF, $26,000 Match

**Middle Peninsula PDC**
*Middle Peninsula Regional Onsite Wastewater Treatment and Disposal Funding Phase II*

The Middle Peninsula PDC will provide financial assistance to 10-13 homeowners to repair or replace failing septic systems. The project aims to repair or replace 5-6 septic systems with properly functioning conventional systems, and to replace 6-7 failed septic systems with properly functioning alternative systems where soil conditions require alternative systems. This project will target septic system replacement and repairs in impaired stream segments of the Middle Peninsula including the Counties of Gloucester, Essex, King and Queen, King William, Mathews and Middlesex and the Towns of Tappahannock, Urbanna and West Point. The project will reduce an estimated 58.8 lbs of nitrogen and 5.2E+11 fecal colony forming units. $80,000 WQIF, $80,000 Match

**Mount Zion Baptist Church**
*Mount Zion Baptist Church Expansion Project: The Vision*

Thirteen raingardens, 0.59 acres of grass pavers and porous trailway underlain by 6-inches of a sand filters, and underground extended detention units (Raintank™) will be installed to manage stormwater at the Mount Zion Baptist Church site in Spotsylvania County. Most of the roofs at the site will drain to rain gardens, which will work in series with the underground extended detention. A portion of the water from the extended detention facility will be diverted to a manhole structure for storage as irrigation water. The project goes beyond the SWM requirements of Spotsylvania County. The project serve as a demonstration in the use of elements of the LID approach, including reduction in impervious surface and Integrated Management Practices (IMP) on a small site, and will provide examples of how existing sites may be retrofitted with rain gardens. The 2.73-acre LID site is estimated to reduce phosphorus loads by an additional 1.4 lbs annually. $112,680 WQIF, $112,680 Match

**Northern Virginia SWCD**
*Tamarack Stables Manure Composting Facility*

A manure composting facility will be installed at the Tamarack Stables, small-acreage horse operation in the Pohick Creek Watershed of Fairfax County. This facility has a high density of horses with approximately two horses per acre, which is allowed in Fairfax County. The stables currently have twenty horses on a fourteen-acre parcel of which ten acres are in pasture. This site will serve as a demonstration facility serving an eight-to-ten mile radius, the typical distance horse owners come to board horses and that other local horse keepers frequent this operation for local horse events. An average of 200-300 horse enthusiasts visit Tamarack Stables each year. Based on laboratory analysis of horse waste that shows an average of 5 lbs of nitrogen and 3 lbs of phosphorus present in every ton of manure, and estimated 82 tons of waste given the 20 horses with 50% confinement, the estimated annual NPS reductions are 410 lbs of nitrogen and 250 lbs of phosphorus. $25,254 WQIF, $27,007 Match

**Piedmont SWCD**
*Nottoway County Homeowner Septic Education / Repair Program*

An educational campaign will be conducted to encourage a large number of homeowners in Nottoway County to voluntarily perform maintenance of their septic systems. Homeowners who attend workshops will be provided the opportunity to participate in a septic pumpout and repair costs share program. Cost share assistance will be provided for approximately 13 pumpout and 10 septic system repairs, while the program expects to achieve a substantially higher number of each through voluntary participation. WQIF funding will be targeted to properties located within watersheds for impaired stream segments. Estimated annual reductions include 49.53 lbs of nitrogen and 4.37E12 colony forming fecal bacteria. $42,150 WQIF, $44,212 Match

**Prince William SWCD**
*Chesapeake Bay - Friendly Horse Farm Project*

The goal of this project is to identify and development affordable BMP options so that all horse farms can improve land stewardship. Current zoning ordinances in Prince William County will be reviewed to see how they address environmentally sound horse keeping practices with the intention to recommend zoning text amendments for items such as allowable stocking rates. There are an estimated 3,900 horses in the County. Two horse farms will be selected to serve as models for the installation of BMPs such as buffers, stream crossings, fencing, watering systems, sacrifice areas, manure composing, roof runoff collection, nutrient management, and pasture renovation and management. One model farm will be less than 10 acres and one model farm will be larger than 10 acres but likely less than 50 acres. $121,399 WQIF, $133,773 Match

**Rappahannock County Government**
*Rappahannock County Septic System Cost-Share Program Expansion*

A project funded under a FY2006 WQIF grant will be expanded to target all TMDL streams in Rappahannock County providing cost-share assistance for septic system replacement and repair. The target area includes the bacteria impaired segments of the Rush River, Hughes River, Hazel Run, Thornton River, and Rappahannock River. The project aims to pumpout / inspects 200 septic systems, repair 20 existing systems, and replace 6 systems that must be relocated due to defective drainfields. Estimate annual reductions include 170 lbs of nitrogen and 1.54E+12 colony forming fecal bacteria. $122,960 WQIF, $170,282 Match

**Southside Virginia Family YMCA**
*Better Site Designing, Building Strong Communities*

The YMCA family fitness facility in Prince Edward County will incorporate Better Site Design principles into the construction of their new site to serve as a model for future development in the County. The new YMCA site is located in the County's Industrial Park, and is only the fourth site to be developed in the 20 parcel park. Porous concrete pavement will be used instead of asphalt on at least 56% of the site's parking lots. A bioretention basin will collect runoff from the driveway area, two islands in the parking lot will be converted to bioretention filter strips, runoff from two parking lots will be directed to grassed swales instead of curb and gutter, and a series of cisterns will collect runoff from the 22,000 square foot roof to be used as irrigation water for the athletic fields. In addition, an urban nutrient management plan will be implemented to ensure proper application of fertilizers on the athletic fields. The Industrial Park is adjacent to the Little Buffalo Creek, upstream of the confluence with the impaired Buffalo Creek a tributary to the Appomattox River. This project will serve as a low impact development demonstration site increasing reductions in annual phosphorus loads by an additional 1.8 lbs. $144,741 WQIF, $204,859 Match

**Thomas Jefferson SWCD**
*Gold Mine Creek Clean Up*

The Goldmine Creek cleanup is a pilot project of the Thomas Jefferson SWCD to holistically address an impaired stream segment with a completed TMDL. Grant funding will be used to address the onsite wastewater element of the clean-up effort, only one aspect of the four-part approach. The *2005 Bacteria TMDLs for York River Basin* estimated the number of septic system problems in the Goldmine Creek watershed to be 10 straight pipes and 37 failing systems. The SWCD is targeting 11 of these units and aims to complete 7 septic tank repairs, 2 septic tank installations / replacement of straight pipes, and installation of 2 alternative septic systems. The larger clean-up effort also includes addresses problems of small acreage horse facilities, protection of forested riparian buffers and other open space, and implementation of agriculture BMPs for livestock farms. This project will annually reduce an estimated 49.5 lbs of nitrogen and 40.58E+10 colony forming fecal bacteria. $38,087 WQIF, $41,834 Match

**Virginia DMME, Division of Mineral Mining**
*Cofer Prospect: Acid Mine Drainage Reclamation*

Watershed restoration will be performed at the Cofer Prospect abandoned lead-zinc-copper mine in Louisa County. The Virginia DMME plans to clear 4 acres of mine spoil, averaging 2 feet in thickness (12,800 cubic years of material). The restoration will reduce or eliminate the generation and discharge of sediment and acid mine drainage into Contrary Creek. The Cofer Prospect site and two unsealed mine shafts were identified as the primary sources of the TMDL ph impairment to Contrary Creek. Matching funds for this restoration effort will be provided from the Orphaned Land Program. The project is estimated to reduce 330 tons of sediment annually and 16,530 tons of toxic sediment in total. $100,000 WQIF, $100,000 Match